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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL R. ARNESON and WILLIAM R. BANDY

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Appeal 2008-2095  
Application 09/496,960  
Technology Center 3600

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Decided: December 29, 2008

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Before HUBERT C. LORIN, DAVID B. WALKER, and JOSEPH A.  
FISCHETTI, *Administrative Patent Judges*.

FISCHETTI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-38. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM-IN-PART.

### THE INVENTION

Appellants claim an electronic inventory system which uses radio frequency identification (RFID) tags incorporating anti-clash protocols to perform data applications. (Specification 1:14-16.)

Claims 1 and 19, reproduced below, are representative of the subject matter on appeal.

1. A method of conducting a wireless inventory of items using a network tag reader and tags, wherein a unique tag is attached to each item and each tag is identified by a plurality of bits, the method comprising the steps of:

selecting one of a plurality of remote access sensor modules, which communicate wirelessly with the items, wherein the selected remote access sensor module comprises a coverage pattern that defines a physical area containing a plurality of items with their associated tags;

interrogating the tags in a defined physical area through the corresponding selected remote access sensor module, thereby receiving information from the tags in the defined physical area;

storing the information received in the interrogating step in an inventory database;

repeating the selecting, interrogating, and storing steps for each remote access sensor module; and

after the selecting, interrogating, and storing steps are performed for each remote access sensor

module, processing the information in the inventory database.

19. A system for conducting a wireless inventory of items using a network tag reader and tags, wherein a unique tag is attached to each item and each tag is identified by a plurality of bits, comprising:

means for selecting one of a plurality of remote access sensor modules, which communicate wirelessly with the items, wherein the selected remote access sensor module comprises a coverage pattern that defines a physical area containing a plurality of items with their associated tags;

means for interrogating the tags in a defined physical area through the corresponding selected remote access sensor module, thereby receiving information from the tags in the defined physical area;

means for storing the information received by the interrogating means in inventory database;

means for repeating the selecting, interrogating, and storing means for each remote access sensor module; and

means for processing the information in the inventory database.

## THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Kaplan	US 3,689,885	Sep. 5, 1972
Guthrie	US 5,289,372	Feb. 22, 1994
Walter	US 5,856,788	Jan. 5, 1999

The following rejections are before us for review.

1. The Examiner rejected claims 1-14, 17, 19-32, and 35 under 35 U.S.C. § 103 over Guthrie.
2. The Examiner rejected claims 16, 34, 37, and 38 under 35 U.S.C. § 103 over Guthrie in view of Walter.
3. The Examiner rejected claims 15, 18, 33, and 36 under 35 U.S.C. § 103 over Guthrie in view of Kaplan.

## ISSUES

1. Have Appellants shown that the Examiner erred in rejecting claims 1-14, 17, 19-32, and 35 on appeal under 35 U.S.C. § 103 over Guthrie on the grounds that a person with ordinary skill in the art would understand from Guthrie that 1.) Guthrie teaches or suggests polling sensors within a coverage pattern that defines a specific area and 2.) whether it would be obvious to modify Guthrie to use an RF signal to communicate data between each sensor and the trunk collector rather than using the disclosed hard-wired system.
2. Have Appellants shown that the Examiner erred in rejecting claims 16, 34, 37, and 38 on appeal under 35 U.S.C. § 103 over Guthrie in view of Walter on the grounds that a person with ordinary skill in the art would find it obvious to modify Guthrie to include the bit interrogating feature of Walter to arrive at dividing tag identification data into parts and then interrogating same at different times.
3. Have Appellants shown that the Examiner erred in rejecting claims 15, 18, 33, and 36 on appeal under 35 U.S.C. § 103 over Guthrie in view of Kaplan on the grounds that a person with ordinary skill in the art would have

known to connect a network tag reader to a power distribution system based on the teachings of Kaplan.

#### FINDINGS OF FACT

We find the following facts by a preponderance of the evidence:

1. Guthrie discloses the known use of RF transmitting devices to account for equipment and where such equipment is located in a building, but discloses that such use is not suitable for Government Agency facilities where security/secrecy issues would be problematic to such use. (Guthrie, col. 3, ll. 40-44).

2. The Examiner found that “[o]ne would have been motivated to use wireless transmissions to poll the tags in Guthrie in order to enable the invention to be used for inventorying non-electric or mobile items such as items in a storeroom.” (Final Rej. 3).

3. The Examiner found with respect to claims 16 and 37 that

While ...[Walter does] not explicitly disclose[] that a plurality of bits are read each time, it would have been obvious to one having ordinary skill in the art at the time the invention was made that in order to use different parts of the identification number for multiple reads, the identification number could be divided into subsets containing any number of bits from only one bit as Walter discloses to any number less than the total number of bits.

(Final Rej. 9).

4. The system in Guthrie discloses a global tracking system which uses sensors to track equipment such that each sensor

is physically attached to a piece of equipment 31-34 and stays with the equipment 3114 34

throughout its operating life. The sensors 18 connect to the collector 19 by way of a conventional 6-conductor telephone cable 24 using RJ11 connectors 24a, for example. Encoded into each sensor 18 is a 32 bit number where the 6 high order bits are zero, and the 26 low order bits of this number make up its GETS ID number. The sensor 18 has one of 67,108,864 different ID numbers.

(Guthrie, col. 7, ll. 57-65).

5. In Guthrie,

four groups 23 of collectors 19 may be coupled to up to 8 sensors 18. Thus each collector 19 has up to 32 sensors 18 connected thereto. Each of the sensors 18 are adapted to transfer data by way of a particular port 23a of its respective collector 19 and pass the data along a data cable 25 to the trunk 22 of the concentrator 17 coupled thereto. Each of the trunks 22 of the concentrator 17 is coupled to the modem and the concentrator 17 is adapted to pass sensor data to the host computer 11 by way of the modem 21.

(Guthrie, col. 5, ll. 55-64).

6. Each of the collectors in Guthrie is

located in each room of a multi-room building, for example, and every sensor 18 in a room connects to this collector 19. There are two models of the collector 19, 19a; one collector 19a (FIG. 4b) has a single channel that supports up to eight sensors 18; the other collector 19 has four channels and supports up to thirty-two sensors 18. A four group collector 19 (FIGS. 4a and 4b) supports from one to four separate rooms with eight sensors 18 on each group.

(Guthrie, col. 8, ll. 6-14.)

7. There is at least one concentrator 17 for the coverage area of each building (Guthrie, col. 8, ll. 44-45).

8. The Specification describes the means for selecting one of a plurality of remote access sensor modules as including a:

[r]emote access sensor module 1104 [which] comprises a network connection interface 1204, an RF transceiver 1208, an antenna segment 1212, and a detector module 1216. As stated above, remote access sensor module 1104 performs the RF transmission and reception functions of tag reader 104 described above with respect to modulator 408, demodulator 412, and antenna 410.

In a preferred embodiment, each remote access sensor module 1104 has an address. This address enables network reader 1120 to send instructions and information directly to a particular remote access sensor module 1104 or to a set of remote access sensor modules 1104....

(Specification 32:28 - 33:7).

9. The Specification describes coverage pattern as defined by the RF transceiver 1208 and antenna segment 1212 which determines the area where tags 102 can be reached. (Specification 37:10-12).

10. Walter discloses using a 1-bit first or last position delineator as a means for as a means of identifying non-activated tags. (Walter, col. 5, ll. 10-18).

#### PRINCIPLES OF LAW

Field of use recitations are typically found in the preamble of claims, and the weight given them largely depends on how the recitation is subsequently used in the body of the claim. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305-06 (Fed. Cir. 1999). Whether a preamble statement that the “patent claims a method of or apparatus for...[x] is not merely a statement describing the invention’s intended field of use ... [depends upon if] that statement is intimately meshed with the ensuing language in the claim.” *Id.* at 1306. In other words, “if the preamble merely state[s] a purpose or intended use and the remainder of the claim completely defines the invention independent of the preamble,” it does not constitute a limitation. *Lipscomb's Walker on Patents*, 3<sup>rd</sup> Edition, Vol. 3, § 11.11 at p. 361 (citing *Marston v. J.C. Penney Co.*, 353 F.2d 976, 986 (4<sup>th</sup> Cir. 1965)); see also, *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) (An element initially recited in the preamble, is thereafter fully incorporated into the body of the claim so as to breathe life and breath into it by setting forth the complete combination).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the

prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.”).

## ANALYSIS

The rejections are affirmed as to claims 1-15, 17, and 18, and reversed as to claims 16 and 19-38. The Appellants do not provide a substantive argument as to the separate patentability of claims 2-15, 17, and 18 that depend from claim 1, which is the sole independent claim among those claims. Therefore, regarding the claims whose rejection is affirmed, we address only claim 1. Claims 2-15, 17, and 18 fall with claim 1.

### *Claim 1<sup>1</sup>*

Appellants argue that “...Guthrie does not teach or suggest polling items within a ‘coverage pattern that defines a specific area.’ At most, Guthrie teaches the ability to poll a collection of specific, predefined, points.” (Appeal Br. 10.)

Appellants more specifically argue:

Guthrie does not teach or suggest, as recited in Appellants' independent claims 1 and 19, "wherein the selected remote access sensor module comprises a coverage pattern that defines a physical area containing a plurality items with their associated tags" and "interrogating the tags in

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<sup>1</sup> Claim 1 recites steps of taking inventory in method format whereas claim 19 recites a system in terms of 35 U.S.C. § 112, sixth paragraph. We therefore address Appellants' argument to each of claims 1 and 19 separately because the scope of claim 1 is different than claim 19.

a defined physical area through the corresponding selected remote access sensor module, thereby receiving information from the tags in the defined physical area." Instead, Guthrie teaches a plurality of sensors physically connected via wiring to a connector. (Appeal Br. 9.)

Appellants' arguments are not persuasive as to error in the rejection because a coverage pattern is created by the trunks 22 of the sensor module or concentrator 17 (FF 5) in Guthrie which define a specific area in which the sensors 18 are located and polled, namely, the entire building area (FF 7). Thus, the requirement of a coverage pattern defining a physical area of claim 1 is met by the distribution of sensors 18 throughout the building in Guthrie.

Appellants next argue "...Guthrie does not teach a method and system 'for conducting a wireless inventory of items....'" (Appeal Br. 10.) However the phrase "conducting a wireless inventory" is recited only in the preamble of claim 1, which we interpret as merely stating a purpose or intended use. This is because the remainder of the claim completely defines the invention independent of the preamble.<sup>2</sup> Thus, Appellants' argument as to preamble recitations not being met by the prior art fails.

Appellants however also seek a definition of coverage pattern tied to wireless communication between the sensor modules and the tags (Appeal Br. 9.) The Specification supports this definition in that it describes

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<sup>2</sup> Although claim 1 recites the sensor module communicates wirelessly with the items, we do not credit this language with breathing life and breadth into the preamble language "conducting a wireless inventory" because the preamble recites that wireless inventory is accomplished using unique tags and not through communicating with the item as recited in the body of the claim.

coverage pattern as defined by the RF transceiver 1208 and the antenna segment 1212 which determine the area where tags 102 can be reached (FF 9). But, the Examiner found 1.) Guthrie discloses the known use of RF transmitting devices to account for equipment (FF 1) and 2.) “[o]ne would have been motivated to use wireless transmissions to poll the tags in Guthrie in order to enable the invention to be used for inventorying non-electric or mobile items, such as items in a storeroom.” (FF 2.)

In their pre-KSR Brief, Appellants argue that “[t]here is no suggestion or motivation to modify Guthrie to obtain a system for and method of conducting a wireless inventory.” (Appeal Br. 10.) To the extent Appellants seek an explicit suggestion or motivation in the reference itself, this is no longer the law in view of the Supreme Court’s recent holding in *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Since the Examiner has provided some articulated reasoning with some rational underpinning for why a person with ordinary skill in the art would modify Guthrie to use wireless communication for inventorying, e.g., non-electric or mobile items such as items in a storeroom (FF 1,2), Appellants’ argument is not persuasive as to error in the rejection. Thus, for the above reasons we sustain the rejection of claims 1-14, 17 based on Guthrie alone. Claims 15 and 18 rejected under 35 U.S.C. § 103(a) over Guthrie and Kaplan fall with claim 1 since Appellants have not challenged such with any reasonable specificity (see *In re Nielson*, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987)).

*Claims 16 and 37<sup>3</sup>*

Appellants argue that the Examiner has failed to establish a *prima facie* case of obviousness because the sensors in both Guthrie and Walter do no more than transmit one bit at a time, and do not as the claims require, transmit plural bits of at least a plurality of bits identifying the tag. (Appeal Br. 14).

The Examiner on the other hand maintains that the secondary reference to Walter remedies the deficiency because:

it would have been obvious to one having ordinary skill in the art at the time the invention was made that in order to use different parts of the identification number for multiple reads, the identification number could be divided into subsets containing any number of bits from only one bit as Walter discloses to any number less than the total number of bits.

(FF 3.)

Claim 16 requires:

incrementing a first tag count in response to the first clock signal, and  
transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count.

On balance, we agree with Appellants that even after combining Guthrie and Walter, a person with ordinary skill in the art would not know to divide a tag identification code, increment a first tag count in response to the first clock signal, and transmit at least a first plurality of the plurality of bits

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<sup>3</sup> Appellants' Brief argues claims 34 and 38 together with claims 16 and 37 (Appeal Br. 14), but we will address claims 34 and 38 separately with respect to our discussion of claim 19 from which these claims depend.

identifying the tag when the first plurality of bits of the tag corresponds to the first tag count as required by claims 16 and 37. This is because Walter uses a 1-bit first position delineator as a means of identifying non-activated tags (FF 10) and not by incrementing a tag count in response to the first clock signal, and transmitting at least a first plurality of the plurality of bits identifying the tag when the first plurality of bits of the tag corresponds to the first tag count.

*Claim 19*

Claim 19 recites a system using 35 U.S.C. § 112, sixth language. As such, we are constrained to interpret the claim elements which are recited in claim 19 using means plus function language as the corresponding structure disclosed in Appellants' Specification, or any "equivalent" thereof. *In re Donaldson Co.*, 16 F.3d 1189, 1197 (Fed. Cir. 1994).

Claim 19 recites, *inter alia*, means for selecting one of a plurality of remote access sensor modules. The Specification describes this means as

[e]ach remote access sensor module 1104 ha[ving]  
an address which enables network reader 1120 to  
send instructions and information directly to a  
particular remote access sensor module 1104 or to  
a set of remote access sensor modules 1104.  
(FF 7.)

Neither Guthrie nor any of the art relied on by the Examiner discloses or makes obvious a means for selecting *one* of the plurality of remote access sensor modules. The Examiner does not provide any evidence of equivalent structure in the prior art. Accordingly, we cannot affirm the Examiner's rejection of claim 19.

With regard to remaining rejected dependent claims 20-36 and 38<sup>4</sup>, because these claim rejections rely upon the underlying rejection of independent claim 19, we also reverse the examiner's rejection of these claims. *See In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988) (If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim dependent therefrom is nonobvious).

#### CONCLUSIONS OF LAW

We conclude that Appellants have shown that the Examiner erred in: rejecting claims 19-32, and 35 on appeal under 35 U.S.C. § 103 over Guthrie; in rejecting claims 16, 34, 37 and 38 on appeal under 35 U.S.C. § 103 over Guthrie in view of Walter; and rejecting claims 33 and 36 on appeal under 35 U.S.C. § 103 over Guthrie in view of Kaplan.

We conclude that Appellants have not shown that the Examiner erred in: rejecting claims 1-14, 17, and 18 on appeal under 35 U.S.C. § 103 over Guthrie; and 15 and 18 under 35 U.S.C. § 103 over Guthrie in view of Kaplan.

#### DECISION

The decision of the Examiner to reject claims 1-15, 17, and 18 is AFFIRMED.

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<sup>4</sup> As the rejections of claims 34 and 38 under 35 U.S.C. § 103(a) using Guthrie and Walter, and claims 33 and 36 under 35 U.S.C. § 103(a) using Guthrie and Kaplan fail to cure the deficiency of the rejection of claim 19, we do not sustain the rejections of these dependent claims.

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The decision of the Examiner to reject claims 16, 19-38 is  
REVERSED.

No time period for taking any subsequent action in connection with  
this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.  
§ 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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